Department of Energy
Washington, DC 20585

May 9, 2005

Mr. John Mitchell
[ ]
Bechtel SAIC Company, LLC
1180 Town Center Drive M/S 423
Las Vegas, NV 89144

Subject: Bechtel SAIC Company Price-Anderson Amendments Act Program Review

Dear Mr. Mitchell:

On April 4, 2005, the Department of Energy's (DOE) Office of Price-Anderson Enforcement (OE) conducted a review of your Price-Anderson Amendments Act (PAAA) program and a limited review of your management and independent assessments conducted on your radiation protection program. This review included pertinent PAAA program and assessment program documentation and interviews with key Bechtel SAIC Company (BSC) personnel.

Your PAAA program was evaluated using the criteria and guidance established by DOE Enforcement Guidance Supplement 00-02, *Price-Anderson Amendment Act (PAAA) Program Reviews*. As part of this review, your processes for identifying and screening nuclear safety noncompliances for PAAA applicability, reporting applicable noncompliances into DOE's Noncompliance Tracking System (NTS), your internal tracking and trending of noncompliances, and your causal analysis and corrective action processes were evaluated. Although this office retains full jurisdiction over matters addressed in 10 CFR 835, *Occupational Radiation Protection,* 10 CFR 820.11, *Information Requirements,* and 10 CFR 708, *DOE Contractor Employee Protection Program,* it is recognized that certain activities conducted by BSC are excluded from the requirements of 10 CFR 830, *Nuclear Safety Management.* This exclusion pertains to activities conducted under the Nuclear Waste Policy Act of 1982 that will be licensed by the Nuclear Regulatory Commission.

Overall, our review concluded that your PAAA program is adequate to address the very limited radiological hazards currently existing within the Yucca Mountain Project (YMP). The review identified several strengths and weaknesses associated with your PAAA program which are delineated below and further discussed in the enclosed report. Although the current radiological hazards are limited, with the anticipated transition to construction at the YMP and the issuance of the Worker Safety and Health rule, an increased burden will be placed on your PAAA Program to address the potential noncompliances associated with these new initiatives. Therefore, it is in your best

interest to proactively seek opportunities to enhance your PAAA program prior to commencement of regulatory enforcement activity.

PAAA Program Strengths

- A diverse set of documents and issues (including assessments, Condition Reports, employee concerns, calibration reports, etc.) are currently being screened on a regular basis for potential PAAA noncompliances.
- One centralized program (Corrective Action Program) is used to capture issues and track associated corrective actions.
- A set of metrics associated with Corrective Action Program (CAP) data is regularly maintained and reported to the General Manager.
- A PAAA summary report is issued shortly after the end of each calendar year capturing noncompliances and incidents from various sources of information.

PAAA and Assessment Program Weaknesses

- Documentation of potential noncompliance screening and evaluation for Noncompliance Tracking System reportability decisions made by the PAAA Review Board is informal.
- The sequence for performance of evaluations for intentional violations or misrepresentations is not properly placed in the BSC PAAA program implementing procedure.
- The BSC PAAA program implementing procedure requires that a review of nuclear safety noncompliances be conducted at least annually to identify repetitive or programmatic deficiencies. An annual review for repetitive or programmatic deficiencies is too infrequent.
- PAAA related training requirements are not delineated in the BSC PAAA program implementing procedure.
- A repetitive issue associated with radiation worker refresher training was not fully screened and evaluated for NTS reportability.
- Linkage to procedures addressing corrective action validation, corrective action effectiveness and extent of condition reviews is not established in the BSC PAAA program implementing procedure for identified noncompliances.
- The BSC organizational chart does not delineate the PAAA function.
- BSC inappropriately took credit for a DOE Office of Repository Development May 2003 assessment of the BSC Radiological Protection program for their required 2001–2003 triennial audit.
- BSC independent assessment teams conducting assessments of the BSC Radiological Protection program lacked health physics expertise.

No reply to this letter is required. Please contact me at (301) 903-0100 or have your staff contact Richard Day at (301) 903-8371 if you have any questions.

Sincerely,

Stephen M. Sohinki
Director
Office of Price-Anderson Enforcement

Enclosure: PAAA Program Review

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Price-Anderson Amendments Act Program Review
Bechtel SAIC Company

I. Introduction

During February and March 2005, including a site visit on April 4, 2005, the Department of Energy's (DOE) Office of Price-Anderson Enforcement (OE) conducted a review of the Price-Anderson Amendments Act (PAAA) program implemented by Bechtel SAIC Company (BSC). OE staff performed the review in accordance with DOE Enforcement Guidance Supplement 00-02, *Price Anderson Amendment Act Program Reviews.* This review evaluated (1) BSC's PAAA program pertaining to the identification and screening of nuclear safety noncompliances, (2) the method for determining a noncompliance's reportability to the DOE Noncompliance Tracking System (NTS), (3) the causal determination process for noncompliances reported to the onsite tracking system and the NTS, and (4) corrective action tracking, implementation, and closure. OE staff also performed a limited review BSC's management and independent assessments conducted on their radiation protection program.

II. General PAAA Program Implementation

The BSC PAAA program is formally established by and described in LP-ESH-044-BSC, revision 2, *Price-Anderson Amendments Act (PAAA) Nuclear Safety Noncompliance Determination and Reporting Process,* dated March 26, 2004. This procedure provides the general framework by which BSC identifies, evaluates, reports, tracks, corrects, and trends PAAA noncompliances. The BSC PAAA Coordinator draws from a number of different sources (e.g., Corrective Action Program, ES&H self-assessments, ES&H independent assessments, external assessments, employee concerns program, out of calibration reports, ranch control notifications, occurrence reports) to perform an initial screen of potential PAAA noncompliances. Those issues which are determined to be potential PAAA noncompliances are typically forwarded electronically to members of the BSC PAAA Review Board for determination of PAAA applicability and NTS reportability.

This procedure has several weaknesses and could be strengthened by addressing the following:

1. Although the procedure does discuss screening and evaluation of potential noncompliances, it does not require the formal documentation of the decisions reached either by the Review Board in determining PAAA applicability or by the PAAA coordinator in evaluating noncompliances for NTS reportability.

2. Paragraph 5.3[9] requires the evaluation of reported noncompliances to determine if an intentional violation or misrepresentation has occurred. This requirement is improperly placed in the section of the procedure discussing the establishment and tracking of corrective actions. This type of evaluation should take place as part of the Review Board's evaluation for NTS reportability.

3. Paragraph 5.3[10] requires that BSC "review, at least annually, all reported nuclear safety noncompliances to identify repetitive or programmatic deficiencies." Discussions with the PAAA Coordinator indicate this review is actually performed more frequently. The annual frequency requirement, as stated in the procedure, is too infrequent. The subject of trending and analysis will be discussed later in this report.

4. The BSC PAAA implementing procedure is silent on the need for training BSC personnel on PAAA issues and requirements. Specific mention of PAAA as part of General Employee Training would be beneficial. In addition, more detailed PAAA related training for BSC management and staff personnel actively involved in the program would likewise be beneficial. Periodic PAAA refresher training should also be considered.

5. A link should be made between the BSC PAAA implementing procedure and the subject-specific BSC procedures addressing (1) PAAA noncompliance corrective action validation for closure, (2) performance of PAAA noncompliance corrective action effectiveness reviews, and (3) extent-of-condition reviews for PAAA noncompliances.

Sufficient and technically competent staff has been assigned to perform the functions of the BSC PAAA program such as screening, evaluation, and reporting of noncompliances.

III. PAAA Organizational Relationship

The BSC PAAA function is not defined in the BSC organizational charts. The function of PAAA Coordinator currently resides with a health physicist in the Radiological Safety organization. The BSC PAAA Coordinator reports to the Radiological Safety Manager, who reports to the ES&H Manager, who reports to the BSC General Manager. Although the BSC PAAA coordinator is situated two layers of management below the General Manager, it appears that relevant PAAA issues are brought to BSC senior management attention as needed.

IV. Identification, Screening and Reporting of Noncompliances

As previously stated, the process by which BSC identifies, screens, and reports noncompliances is captured in the BSC PAAA implementing procedure. Due to the exclusion of 10 CFR 830 and the limited radiological hazards present at the Yucca Mountain Project (YMP), only a few PAAA noncompliances have been identified, none

of which were determined by BSC to be reportable to NTS. The OE review of screening conducted on potential PAAA noncompliances indicates that BSC screening of issues is being conducted in accordance with OE expectations. Of the issues determined to be PAAA noncompliances, all were evaluated appropriately and in accordance with OE guidance with regard to reportability into NTS, with the one possible exception of an apparent repetitive or programmatic issue involving radiation worker refresher training. The issue was first identified in 1999 and later identified in a September 2000 radiation protection assessment in which an ineffective process for tracking completion of radiological worker refresher training was noted. In 2003 it was identified that several workers had not completed the radiation worker refresher training as required in 2002. These issues were not collectively evaluated for the potential of a repetitive or programmatic noncompliance.

Currently, potential PAAA noncompliances are electronically forwarded to Review Board members for their evaluation. The Review Board members then respond back to the PAAA Coordinator with their evaluation of the potential noncompliance. This informal process for potential noncompliance evaluation seems cumbersome involving numerous e-mail requests for evaluation and subsequent response. Further, there is no documented summary of the decisions reached or the basis for the decision.

V. Cause Determination and Corrective Action Management

The BSC process for corrective action management is contained in two procedures:

1. AP-16.1Q, revision 8, *Condition Reporting and Resolution,* dated December 17, 2004,
2. GM-BC-13, revision 0, *Corrective Action Program Directive.*

Any issue can be entered into the BSC Corrective Action Program (CAP) database by initiating a Condition Report. The conditions are then screened and characterized into one of four levels. Depending on the Condition Report characterization, a graded approach is used to conduct root cause analysis, extent-of-condition reviews, and corrective action effectiveness reviews. A matrix delineating the various requirements depending on the Condition Report characterization is included as attachment six to the *Condition Reporting Characterization* procedure. All Condition Reports associated with BSC PAAA noncompliances were characterized as Level C, requiring no formal root cause analysis or corrective action effectiveness review. BSC does not have a procedural requirement for a root cause analysis for NTS reportable noncompliances. This is contrary to what OE observes with most other DOE contractors. Extent of condition reviews are performed only at the direction of management for Level C conditions. A set of administrative metrics related to implementation of the CAP is regularly maintained and reported to the BSC General Manager. Metrics include percent of adverse Condition Reports identified by line management, cause codes, average completion time and cycle time for corrective actions, and percentage successfully verified as complete. In general, OE views the BSC corrective

management process to be effective and the CAP as an effective tool in capturing issues and tracking corrective actions.

VI. Trending for Repetitive and Programmatic Noncompliances

The BSC process for trending, analyzing and reporting information is established in AP-16.3Q, revision 5, *Trend Evaluation and Reporting,* dated November 3, 2004. Reporting of analysis results is accomplished on a quarterly basis. As stated previously the PAAA implementing procedure requires, at least on an annual basis, the review of all noncompliances to identify repetitive or programmatic deficiencies. With the small number of noncompliances that have been identified at the YMP over the past several years, formal trending and analysis are not beneficial, and the current practice of a periodic informal review of PAAA related issues seems sufficient. However, an annual review, as allowed by BSC procedure, is too infrequent.

VII. Management/Independent Assessment Programs

BSC formally establishes its management and independent assessment programs by the following four procedures:

1. LP-ESH-029-BSC, revision 2, *Environment, Safety, and Health Assessments,* dated October 26, 2004.
2. LP-QA-005-BSC, revision 0, *Management Self-Assessments and Organizational Self-Assessments,* dated March 31, 2004.
3. LP-PMC-006-OCRWM, revision 1, *Independent Assessments*, dated October 18, 2004.
4. LP-PMC-011-OCRWM, revision 0, *Program Assessments*, dated June 23, 2004.

As part of the program review, OE evaluated the BSC processes for conducting triennial internal audits of their Radiation Protection Program as required by 10 CFR 835.102. These reviews are controlled by the *Environmental, Safety and Health Assessments* procedure.

In meeting 835.102 requirements, BSC past practices have been to conduct one Radiation Protection Program assessment every three years. Discussion with cognizant BSC staff indicated, however, that this practice is being modified so that multiple assessments are conducted over the period such that the entire program is reviewed by the end of three years. This approach represents an improvement and is more consistent with DOE guidance (Implementation Guide DOE G 441.1-1).

OE review of selected radiological assessments identified the following weaknesses:

- BSC satisfied the 835.102 triennial audit requirement for the most recently completed three year cycle (2001-2003) by "taking credit" for a May 2003 assessment of the BSC Radiation Protection Program conducted by the DOE Office of Repository Development (DOE-ORD). Although this approach was agreed-upon between BSC

and DOE-ORD, and the completed assessment was comprehensive, OE noted it does not meet the objective of an "internal audit" as specified in 10 CFR 835.102.

- OE review identified that prior completed audits (numbers 99-01, 00-09) of the Radiation Protection Program focused on compliance with existing Radiation Protection procedures, and did not evaluate the adequacy of the procedures. Subsequent discussion indicated the BSC auditors did not have health physics experience. The inclusion of an individual with health physics expertise in future audits would improve the overall quality and credibility of the 835 audits. (It should be noted that, in addition to the 835 audit program discussed above, the BSC Radiation Protection organization routinely conducts internal assessments which do provide an evaluation of Radiation Protection Program adequacy).

VIII. Conclusion

The OE review determined that the BSC program, as currently established, meets DOE expectations and guidance in most respects, given the BSC exemption from 10 CFR 830 and the very limited radiological hazards present at the YMP. However, PAAA program weaknesses do exist and should be corrected. With the anticipated onset of construction activities and issuance of the Worker Safety and Health rule, a proactively enhanced PAAA program will be of significant value to BSC.

The DOE Enforcement Policy (10 CFR 820, Appendix A) has provided positive incentives for contractors who identify, report, and promptly and comprehensively correct nuclear safety noncompliances. The weaknesses identified in this report, if not corrected, could impact the application of enforcement discretion in any future enforcement action.